

Notice of Allowability

Application No.

10/648,783

Examiner

Jennifer Doan

Applicant(s)

NAKAMA ET AL.

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on April 18, 2005.
2. ☒ The allowed claim(s) is/are 1-23.
3. ☒ The drawings filed on 08 January 2004 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S STATEMENT OF REASONS FOR ALLOWANCE

Response to Amendment

1. Applicants' amendment filed on April 18, 2005 has been fully considered and entered.

Reasons for Allowance

2. Claims 1-23 are allowed.
3. The following is an examiner's statement of reasons for allowance:

The prior art of record fails to disclose or reasonably suggest all the limitations recited in the amended base claim 1. Specifically, the prior art of record fails to disclose an optical connection device for optically coupling at least one optical waveguide in which light propagates to at least one optical element disposed outside the optical waveguide, the optical connection device comprising the optical waveguide provided in a board so that an optical axis thereof is parallel with a board surface, a part of the optical waveguide being removed to form a groove and an optical unit arranged at a position of intersection of the optical axes of the optical element and the waveguide for turning light by reflection from one of the optical axes of the waveguide and the optical element along the other of the optical axes; wherein the optical unit is fitted to the groove such that a surface of the optical unit is guided by a surface of the groove in combination with the other limitations of claim 1.

Claims 2-14 and 23 depend from claim 1.

The prior art of record also fails to disclose or reasonably suggest an optical connector device comprising each of the first and second optical waveguides having an end surface exposed to a common groove portion angled at a predetermined angle to the optical axes of the first and second optical waveguides respectively; a photodetecting element disposed outside the first optical waveguide; a light emitting element disposed outside the second optical waveguide and an optical unit disposed in the common groove portion for tuning light output from the first optical waveguide to the photodetecting element and for tuning light emitted from the light-emitting element to the second optical waveguide in combination with the other limitations of claim 15.

Claims 16-22 depend from claim 15.

The examiner agrees with applicants' arguments on pages 6-9 in the remarks accompanying the amendment of April 18, 2005, and fully concurs that neither Strake reference nor the other references of record either alone or in combination disclose or suggest an optical connection device in which a part of the optical waveguide is removed to form a groove and the optical unit is fitted to the groove such that a surface of the optical unit is guided by a surface of the groove with other limitations as defined above.

Furthermore, K. Suzuki et al. (Article from the Optical Society of Japan, cited in the Information Disclosure Statement filed on January 30, 2004) disclose an optical pin having a 45⁰ micro mirror to couple an optical wiring with an optical device by inserting the optical pin into a through-hole fabricated on a polymeric waveguide substrate (see figure 1). However, K. Suzuki et al. fail to disclose an optical device having a part of the

optical waveguide being removed to form a groove (K. Suzuki et al. only teach a through hole is formed on the polymeric waveguide).

Claims 1-23 are therefore allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Doan whose telephone number is (571) 272-2346. The examiner can normally be reached on Monday to Thursday from 6:00am to 3:30pm, second Friday off.
5. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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6. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jennifer Doan

Patent examiner

July 8, 2005